WHO’S IN CHARGE OF CHILDREN’S ENVIRONMENTAL HEALTH IN CHILDCARE SETTINGS & SCHOOLS

Jerome A. Paulson, MD, FAAP
Professor Emeritus of Pediatrics and of Environmental & Occupational Health
George Washington University School of Medicine and Health Sciences and
George Washington University Milken Institute School of Public Health

WHO'S IN CHARGE OF CHILDREN'S ENVIRONMENTAL HEALTH AT SCHOOL?

PAULSON J. BARNETT C.

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DR PAULSON HAS NO CONFLICTS OF INTEREST TO DECLARE.
The Pew Environmental Health Commission's Definition of Environmental Health

- Environmental health comprises those aspects of human health, including quality of life, that are determined by interactions with physical, chemical, biological and social factors in the environment. It also refers to the theory and practice of assessing, correcting, controlling and preventing those factors in the environment that may adversely affect the health of present and future generations.

http://pewenvirohealth.jhsph.edu/html/home/home.html
FOCUS OF THIS MEETING

- The *health of children* as influenced by environmental conditions in places where children learn
  - Child care
  - Pre-K
  - K-12

- NOT talking about – obesity, physical safety, exercise, etc.
SCHOOL & CHILD CARE BUILDINGS

- No systematic data collection on child care, Pre-K or K-12 school buildings
- In late 1990s, GAO report
- The National Center for Education Statistics (NCES) nationally representative data on the condition of public school facilities 2012-2013 (self-reported data)
  - 53% reported need to do repairs, renovations or modernization to bring building into good condition
  - Environmental factors rated unsatisfactory or very unsatisfactory in 5-17% of permanent buildings and 10-28% of portable buildings
SOME OF THE ENVIRONMENTAL HEALTH ISSUES IN CHILD CARE CENTERS & SCHOOLS

- Indoor air quality
- Lighting
- Pests and pesticides
- Noise
- Radon
- Asbestos
- Lead – paint, water
- PCBs
- Non-lead drinking water contamination
- Cleaning processes and products
- Siting problems

http://www.epa.gov/asthma/images/iaq_tfs_logo.jpg
PROBLEMS ADDRESSED BUT UNRESOLVED

- Infiltration of fumes and carbon monoxide from idling vehicles into classrooms
  + EPA voluntary school bus program (On-line, but no longer funded or updated)

- Schools located in former commercial spaces, on unremediated Brownfields, or on or near Superfund sites
  + EPA developed voluntary siting guidelines (http://www.epa.gov/schools/siting/)

- Use of toxic and explosive products in classrooms or stored in schools
  + EPA voluntary school chemical clean out program (On-line, but no longer funded or updated)

- PCBs in caulks
  + Some states have activities


http://www3.epa.gov/region4/rcra/images/sc3_clip_image001_0002.jpg
PROBLEMS ADDRESSED BUT UNRESOLVED

- Asbestos - Asbestos Hazard Emergency Response Act (AHERA)
  - Frequent noncompliance
- Lead in water – voluntary EPA program without enforcement
- Underground storage tanks
- Radon – EPA published recommendations for testing

http://www.maine.gov/dep/waste/asbestos/images/asbestos2.jpg
http://www.epa.state.il.us/land/lust/images/underground-storage-tank-cleaning.jpg
http://media.npr.org/assets/img/2011/01/07/water-fountains-lead-ae91df083238017b5801c93e01009aa5e5dfdb4e-s300-c85.jpg
PROBLEMS UNADDRESSED

- Outbreaks of infectious diseases
- Toxic debris from construction or demolition inside occupied schools and toxic fumes from paints, glues and new carpets
- Air toxics from nearby sources such as industries or highways
- Dampness
  - Mold and other substances
- Allergens
- CO₂ – function of ventilation system
INDOOR AIR QUALITY

- No governmental agency, federal, state or local, regulates indoor air pollutants with the exception of laws pertaining to smoking in public places

- EPA recommendations in voluntary programs
  - Tools for Schools - Some state laws direct school districts to implement TfS
    - Federal program no longer funded or updated
  - The Healthy School Environments Assessment Tool (HealthySEATv2) - more comprehensive than just indoor air

- Children do better in well ventilated rooms
- Children do better in air conditioned (appropriately heated and cooled) rooms
Daylighting – research shows better test scores, better behavior with controlled daylighting combined with appropriate artificial lighting

PESTS & PESTICIDES

- Food readily available in many parts of school building
- Wide variety of pesticides used – herbicides, rodenticides, insecticides
- Should use IPM approach
- Should never have routine pesticide application program
- Many states with IPM requirements
Many indoor and outdoor sources of noise
Children learn better with less noise

ENVIRONMENTAL CONTAMINATION OF SCHOOL BUILDING

- Water – floods, hurricanes
- Hazardous materials
  + Contained in flood waters
  + From leaking tank cars or trucks
  + From terrorist attack – 9/11

https://www.portlandoregon.gov/shared/cfm/image.cfm?id=381680


Picture taken by Lori Getter
Wisconsin Emergency Management
OTHER ISSUES & DATA COLLECTION

- No systematic collection of data related to health or environmental issues
  - DEd
  - DHHS – CDC – National Center for Health Statistics, National Center for Environmental Health
  - EPA

- Makes recognition of new problems difficult
- Makes evaluation of problems and interventions difficult or impossible.
- Family Education Rights and Privacy Act (FERPA)
FORMULATING PUBLIC POLICY RELATED TO SCHOOLS IN THE US

- Constitution leaves responsibility for education to the states.
- Federal Department of Education – does not regulate children’s health & safety in schools
- Federal Department of Health & Human Services – does not regulate children’s health & safety in schools
States responsible for providing public education

State educational agencies without regulatory power related to environmental health

State often delegates authority for education to local school districts
  + May be an agency independent of other components of local government and with own taxing authority
  + Generally does not interface with state or local health or environmental departments
  + Does not have internal expertise in environmental health
PROTECTION OF ADULTS

- Occupational Safety & Health Act of 1970 (Federal)
  - Public sector workers not covered by federal law
  - 25 states with own occupational safety and health program
- Union
- State Departments of Labor
- Worker’s compensation programs
- Other
  - Call in sick
  - Change schools
Most pediatricians not trained to identify or deal with environmental health problems

Evaluation of child care center- or school-based environmental health problems – multi-pronged approach

- Pediatrician – for child
- Industrial hygienist – for building
- Facilities management experts – for specific systems in buildings
A resource for pediatricians, public health officials, child care center personnel, school personnel, parents and others to get questions answered about children’s health and the environment

- Education
- Consultation
THE PEDIATRIC ENVIRONMENTAL HEALTH SPECIALTY UNIT (PEHSU) PROGRAM IN THE US IS FUNDED BY

AND

AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

AND

American Academy of Pediatrics

Dedicated to the Health of All Children

American College of Medical Toxicology
WHAT KINDS OF PROBLEMS DO PEHSUS DEAL WITH?

- Lead poisoning
- Pesticide exposures
- Sick building problems
- Water pollution
- Air pollution
- Job related exposures in adolescents
- Volatile Organic Compounds
- Exposure to hazardous waste sites
- Environmentally related asthma
- Agricultural pollutants
- Solvents
- Carbon monoxide
- Arsenic
- Mercury
HOW DO YOU CONTACT YOUR REGIONAL PEHsu?

- All have a toll free phone number
- All have a web site
- For a list of all PEHsuS and contact information, see http://www.pehsu.net
CONCLUSIONS

- No one is in charge!
- Adults May Have Some Protection from EH Hazards
- Children Have No Uniform Protection from EH Hazards
- No Adequate System for Gathering Data to Document or Track Exposures
- No Baseline Data from which to Assess Changes
- EPA guidelines for state agencies to address school environments, lacks guidance on how state health agencies might collaborate with pediatric environmental health experts for on site investigation.
RECOMMENDATIONS

- Need 1 Federal agency to establish a program in Pre-K to 12 environmental health
  - Tracking and monitoring programs need to be created.
    - Modify or adapt FERPA to facilitate this
  - Develop a coordinated federal strategy for the states to help their schools rapidly improve facility design, construction, and maintenance
  - Set up programs to test and remediate for hazards and to phase in safer products.
  - Fund and conduct research
  - Develop and enforce REGULATIONS
- Utilize PEHSUs to inspect child care centers or schools and develop remediation and management plans
TO EXPEDITE DISCUSSION AT THIS MEETING

- We’re looking for best ideas without financial constraints. If we, in our process, compromise our recommendations, then legislators, school boards, state educational bureaucracy, federal agencies and others will use that as a starting point and compromise further.